Invasive Species Early Detection Monitoring Protocol for Klamath Network Parks

Standard Operating Procedure (SOP) #3: Observer Training

Version 1.00 (February 2010)

Revision History Log:

Previous Version	Revision Date	Author	Changes Made	Reason for Change	New Version

This SOP explains the procedures for training observers, including survey training, first aid, safety, emergency procedures, backcountry rules and ethics, data entry, and training tracking.

Survey Training

Prior to working in the field, each member of the field crew must review the entire protocol and the job hazard assessment documents. Training will include a presentation of the specifics of the protocol by the Project Lead and Data Manager. The crew will be instructed on how to identify invasive species and how to use the GPS units, databases, and laser rangefinder.

Training Observers in Navigation

Observers are expected to be able to independently navigate in the field using a map, compass, and GPS unit. They will be provided instruction on the following (SOP #4: Setting up the Electronic Field Equipment, SOP #6: Data Collection and Entry):

a. Basic features of Garmin and Trimble GPS units.
b. Using ArcPad to collect data.
c. Confirming zone and datum.
d. Ensuring correct identification of search unit (road, trail, powerline) on the GPS unit.
e. Navigation along search units and measuring distance within subsegments for locating random plots.
f. Understanding correspondence between map and GPS, including search units.
g. Use of map, compass, and pacing in conjunction with GPS navigation.
h. Use of the laser rangefinder.

Training Observers in Plant Identification and Collection

Observers are expected to be familiar with plant taxonomy and terminology in order to become quickly familiar with invasive exotic plants encountered in the Network parks. With the Crew Leader, observers will review how to identify invasives that have been prioritized using the

outreach materials developed by the Network, and where appropriate, herbarium specimens, keys, and photographs. The Project Lead will work with the Herbarium at Southern Oregon University to develop a complete set of specimens for all prioritized invasives. Field botanists/crew member's training will include:

1. Review lists of priority invasives.
2. Review photographs, taxonomic keys, herbarium sheets, and other plant identification materials prepared by the Network.
3. Practice plant identification, making use of herbarium specimens where possible.
4. The Crew Lead should work with the field crew members to specifically review how to identify prioritized species in particular parks. This should include:
    a. Which species look similar to the prioritized species.
    b. Which habitats are most likely to have infestations of particular species.
5. The Crew Lead will demonstrate how to collect a voucher specimen.

Training Observers in Foliar Cover Estimates

Foliar cover estimates are obtained for invasive species as well as trees and shrubs in field plots. Consistent cover estimates are important for modeling and for tracking changes in cover over time. However, obtaining consistent estimates among observers is notoriously difficult. The following guidelines will be followed to help improve consistency.

1. Foliar cover measures a vertical projection of the leaf area. This can be viewed as the ground area that would be obscured from a downward projection of light above the plant.
2. Conceive of plant cover in 10 m^2 units.
3. Discuss cover estimation in a group setting, allowing for consideration of each other's estimates. With practice and discussion, foliar cover estimates by observers should begin to converge.
4. Practice estimating cover for different life forms, such as forbs, grasses, and shrubs.
5. Throughout the sampling season, review foliar cover estimation. Periodically compare observer's cover class estimates.
6. Ensure good communication among the crew about observer patterns of cover estimation.
7. As vegetation dies back, discuss estimation standards for estimating foliar cover of senescing vegetation.

It is the Crew Lead's responsibility to test each member of the crew on their ability to measure foliar cover.

Training the Observer in Data Collection Techniques

Data are collected using field computers and GPS units. Instructions for setting up the GPS units are provided in SOP #4: Setting up the Electronic Field Equipment. The data to be entered and entry methods are described in SOP #6: Data Collection and Entry. Each member of the crew will attend a 1-2 day training on how to use the electronic equipment to collect data. It is the responsibility of the Data Manager, with the help of the Crew Lead, to develop the training materials and conduct the training prior to beginning field sampling. At the end of the training, each crew member will be tested to ensure that they understand how to collect and store data using the electronic equipment. If a crew member does not pass the test, the Data Manager will need to work closely with him/her until he/she learns the methods.

First Aid, Safety, and Emergency Procedures

The field crew will be working in some remote areas; it is therefore essential that everyone, to the extent possible, be prepared for emergency situations. Numerous safety issues and concerns are associated with implementing a long-term, service-wide monitoring program that includes extensive field work and sampling by network staff or other cooperators/contractors. Field work requires an awareness of potential hazards and knowledge of basic safety procedures. Field personnel routinely come in direct and indirect contact with rough terrain, potentially hazardous plants and animals, and adverse weather conditions. Advanced planning can reduce or eliminate many safety hazards.

The Klamath Network is committed to safety and will work to meet the goals and adhere to the beliefs of the NPS NPSafe program. To this end, the Klamath Network has developed job hazard assessment documents specific to each park, to which crew members will strictly adhere while working at the parks (Appendix E). The safety protocol addresses known hazards (e.g., poison oak, rocky terrain, etc.), wildlife issues, communications, first aid, and an emergency response plan. Prior to going into the field, the Crew Lead shall review safety procedures and job hazard analyses (Appendix E) with all field crew personnel.